

CLAIMS

What is claimed is:

1. A method for automatically generating a multi-level video summary, comprising:
 - automatically dividing a video file into video segments using segmenting criteria;
 - automatically generating at least one summary level including video segments from the video file, the video segments in each summary level selected using selection criteria; and
 - automatically generating navigational links between video segments in the summary levels, the navigational links connecting video segments containing related material.
2. A method according to claim 1, further comprising:
 - automatically determining the length of each summary level.
3. A method according to claim 1, further comprising:
 - automatically grouping video segments in a summary level into a video composite, the video composite including at least two video segments in the summary level.
4. A method according to claim 1, further comprising:
 - providing a user interface whereby a user can view the multi-level video summary, the user interface allowing the user to navigate between summary levels using the navigational links.
5. A method according to claim 1, wherein:
 - automatically generating at least two summary levels further includes generating summary levels each having a different level of detail for related video segments.
6. A method according to claim 1, further comprising:

automatically determining the number of summary levels to generate.

7. A method according to claim 1, further comprising:

automatically determining which navigational links to generate.

8. A method according to claim 1, further comprising:

providing at least one algorithm to be used in generating a multi-level video summary.

9. A method according to claim 1, wherein:

the selection criteria includes criteria selected from the group consisting of goodness, smoothness of camera operation, amount of camera motion, location in the video, and lighting level.

10. A method according to claim 1, further comprising:

providing the ability for an author to refine an automatically-generated multi-level video summary.

11. A method according to claim 1, further comprising:

including the first and last video segment from the video file in the summary levels.

12. A method according to claim 1, further comprising:

ensuring that the selection of video segments includes video segments distributed throughout the video file.

13. A method according to claim 1, wherein:

each navigational link includes a source anchor in one summary level, a destination anchor in another summary level, and at least one return behavior.

14. A method according to claim 13, wherein:

each navigational link further includes a label.

15. A method according to claim 13, further comprising:

automatically grouping some of the video segments in a summary level into a video composite that will be a source anchor for a link to another summary level.

16. A method according to claim 1, wherein:

the video segments in each summary level are in chronological order as the video segments appear in the video file.

17. A method according to claim 1, wherein:

each summary level includes a different number of video segments.

18. A method according to claim 13, wherein:

the return behavior includes a return position selected from the group consisting of the beginning of a video segment, the point in a video segment at which a navigational link is followed, and the end of a video segment.

19. A system for automatically generating a multi-level video summary, comprising:

means for automatically dividing a video file into video segments using segmenting criteria;

means for automatically generating at least one summary level including video segments from the video file, the video segments in each summary level selected using selection criteria; and

means for automatically generating navigational links between video segments in the summary levels, the navigations links connecting video segments containing related material.

20. A computer program product for execution by a processor for automatically generating a multi-level video summary, comprising:

computer code for automatically dividing a video file into video segments using segmenting criteria;

computer code for automatically generating at least one summary level including video segments from the video file, the video segments in each summary level selected using selection criteria; and

computer code for automatically generating navigational links between video segments in the summary levels, the navigations links connecting video segments containing related material.